REMARKS

This Amendment is responsive to the Office Action dated April 21, 2005. Applicant has amended claims 1, 7 and 32 to correct typographical errors and for purposes of clarification, rather than for reasons related to patentability. Claims 1-35 remain pending.

As an initial matter, Applicant notes that, although the Office Action Summary indicated that all of the pending claims were rejected, the Examiner did not address claims 8-13 in the Detailed Action. Applicant respectfully requests clarification as to whether these claims are rejected or allowable and, if rejected, on what basis.

Claim Objections

In the Office Action, the Examiner objected to independent claim 1 based on a typographical error therein. Applicant has amended claim 1 to correct the typographical error, and respectfully requests that this objection be withdrawn.

Claim Rejection Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1, 3-5, 7, 14, 19-22, and 25-31 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,516,227 to Meadows et al. (Meadows). Applicant respectfully traverses these rejections; particularly to the extent such rejections may be considered applicable to the claims as amended. Meadows fails to disclose each and every feature of the claimed invention, as required by 35 U.S.C. § 102(b), and neither Meadows, nor any of the other applied references, provides any teaching that would have suggested the desirability of modification to include such features.

Claims 1, 3-5, 7, 14 and 19-21

For example, amended independent claim 1 requires an implantable medical device comprising a plurality of integrated circuits, a plurality of discrete components, and a circuit board that is coupled to each of the integrated circuits and discrete components, wherein the circuit board includes first and second surfaces, each of the integrated circuits is located on the first surface, and each of the discrete components is located on the second surface. Meadows does not even teach or suggest that the implantable medical device described therein includes a

circuit board, much less teach or suggest the arrangement of integrated circuits and discrete components on respective surfaces of a circuit board required by independent claim 1.

In rejecting claim 1, the Examiner cited column 36, lines 44-50 of Meadows as teaching a circuit board. However, this portion of Meadows describes components of an external programming device, rather than an implantable medical device. The teachings within Meadows relating to an external programming device are irrelevant to the requirements of Applicant's claims.[1]

Further, the Examiner cited column 21, lines 1-15, of Meadows as teaching a circuit board comprising first and second surfaces, wherein each of the discrete components is located on the first surface, and each of the integrated circuits is located on the second surface. The Examiner appears to have misunderstood this portion of the Meadows disclosure. While this portion of the Meadows disclosure does describe a variety of circuits within an IPG, it does not even discuss a circuit board, much less any arrangement of described circuits on the circuit board.

Independent claim 1 also requires that at least one of the integrated circuits and discrete components are arranged on the respective one of the first and second surfaces to substantially conform to a predetermined non-linear profile. Meadows also fails to teach or suggest this requirement of claim 1. As discussed above, Meadows does not even teach or suggest a circuit board within an implantable medical device, much less any arrangement of integrated circuits and discrete components on such a circuit board. The Examiner cited column 20, lines 60-67, of Meadows as teaching this requirement of claim 1. However, although this portion of Meadows indicates that the housing of the described implantable medical device may be rounded, it does not even remotely suggest that the circuitry of the implantable medical device may be arranged on a circuit board to substantially conform to the rounded profile of the housing, or any other non-linear profile, as required by independent claim 1.

As another example, Meadows also fails to teach or suggest a telemetry coil within the housing of the implantable medical device that encircles the circuit board, as required by claim 3.

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[1] The Examiner also cited the portion of Meadows that describes components of an external programming device for its teaching of a housing to house the circuit board. Again, these teachings are irrelevant to the requirements of Applicant's claims, which define an implantable medical device.

Again, as discussed above, Meadows does not even teach or suggest a circuit board within an implantable medical device, much less a telemetry coil that encircles such a circuit board. Indeed, Meadows fails to provide any teaching relevant to the relative arrangements of circuit board and telemetry coil recited in claims 3-5 and 7.

In rejecting claims 3-5 and 7, the Examiner cited column 4, lines 60-67, of Meadows, and stated:

> [t]he disclosed primary coil and receiver are considered to anticipate the claimed telemetry coil because both can be positioned within a concave housing such that they occupy space that cannot be occupied by the circuit board.[2]

This citation and statement indicates that the Examiner has thoroughly misunderstood the Meadows disclosure. The primary coil described by Meadows is not a telemetry coil within the described implantable medical device, but rather is an external coil that is part of an external device, and is used for recharging the implantable medical device. Accordingly, the teachings within Meadows relating to the primary coil are entirely irrelevant to the requirements of Applicant's claims and, in any event, Meadows does not remotely teach or suggest that the primary coil encircles a circuit board, as required by claim 3. As discussed above, Meadows completely fails to disclose or suggest a circuit board within an implantable medical device.

Applicant also objects to the Examiner's statement because it completely misrepresents the content of the Meadows disclosure. Meadows does not remotely teach a concave housing for an implantable medical device, or provide any discussion relating to arrangement of components within a housing of an implantable medical device. The phrase "positioned within a concave housing such that [it] occupies space that cannot be practically occupied by the circuit board," is taken directly from paragraph [0011] of Applicant's disclosure. Meadows does not provide any teaching that is remotely related to this teaching within Applicant's disclosure.

Applicant also notes that even if Meadows did teach positioning a coil within a housing to occupy space not occupied by a circuit board, as suggested by the Examiner, such teaching would not anticipate any of the requirements of Applicant's claims 3-5 and 7, which respectively require: a telemetry coil that encircles the circuit board; that the telemetry coil is substantially uneclipsed by the circuit board; that the circuit board is located substantially within a first plane

[2] Office Action, page 3.

and the telemetry coil is located substantially within a second plane, and the first and second planes are substantially parallel; and that the housing of the implantable medical device includes a central portion and a taper portion, the circuit board is located within the central portion, and the telemetry coil is located within the taper portion. The Examiner has completely failed to address the requirements of these claims in the manner that is required to establish a prima facie case of anticipation under section 102.

The Examiner also completely failed to address the requirements of claims 14 and 19-21. In fact, the Examiner did not even discuss these claims in the Office Action. The requirements of these claims are not taught or suggested by Meadows.

Applicant respectfully requests that the Examiner consider the requirements of each of Applicant's claims, and that the next Office Action include explanations of the rejections for each claim in accordance with the requirements of 37 C.F.R. 1.104, or withdrawal of such rejections.

The Examiner is also reminded that, in order to support an anticipation rejection under 35 U.S.C. 102(b), it is well established that a prior art reference must disclose each and every element of a claim. This well known rule of law is commonly referred to as the "all-elements rule."[3] If a prior art reference fails to disclose any element of a claim, then rejection under 35 U.S.C. 102(b) is improper.[4]

Meadows fails to disclose each and every limitation set forth in claims 1, 3-5, 7, 14 and 19-21. For at least this reasons, the Examiner has failed to establish a prima facie case for anticipation of these under 35 U.S.C. § 102(b). Withdrawal of these rejections is requested.

Claims 22 and 25-31

Independent claim 22 requires an implantable medical device comprising a circuit board, a telemetry coil that encircles the circuit board, that the circuit board is located within a first plane and the telemetry coil is located within a second plane, and that the first and second planes

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[3] *See Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81 (CAFC 1986) ("it is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention").
[4] *Id. See also Lewmar Marine, Inc. v. Barient, Inc.* 827 F.2d 744, 3 USPQ2d 1766 (CAFC 1987); *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (CAFC 1990); *C.R. Bard, Inc. v. MP Systems, Inc.*, 157 F.3d 1340, 48 USPQ2d 1225

are substantially parallel. As discussed at length above with references to claims 1, 3 and 5, Meadows completely fails to disclose or suggest any of these requirements of independent claim 22.

Further, the Examiner completely failed to address the requirements of claims 25-31; not even mentioning or discussing these claims in the Office Action. The requirements of these claims are not taught or suggested by Meadows.

Applicant respectfully requests that the Examiner consider the requirements of each of Applicant's claims, and that the next Office Action include explanations of the rejections for each claim in accordance with the requirements of 37 C.F.R. 1.104, or withdrawal of such rejections.

Meadows fails to disclose each and every limitation set forth in claims 22 and 25-31. For at least this reasons, the Examiner has failed to establish a prima facie case for anticipation of these under 35 U.S.C. § 102(b). Withdrawal of these rejections is requested.

Claim Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 2, 6, 23, and 24 under 35 U.S.C. 103(a) as being unpatentable over Meadows in view of U.S. Patent No. 5,800,535 to Howard, III (Howard), and rejected claims 15-18 and 32-35 and under 35 U.S.C. 103(a) as being unpatentable over Meadows in view of U.S. Patent No. 6,626,680 to Ciurzynski et al. (Ciurzynski). Applicant respectfully traverses these rejections. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

As an initial matter, Applicant notes that neither Howard nor Ciurzynski provides any teaching or suggestion that would overcome the deficiencies of Meadows with respect to independent claims 1 and 22 discussed above. For at least this reason, the rejection of claims 2, 6, 15-18 and 23-24 under section 103 must be withdrawn.

(CAFC 1998); *Oney v. Ratliff*, 182 F.3d 893, 51 USPQ2d 1697 (CAFC 1999); *Apple Computer, Inc. v. Articulate Systems, Inc.*, 234 F.3d 14, 57 USPQ2d 1057 (CAFC 2000).

Claims 2, 6 and 23-24

Additionally, claims 2 and 23 require that a first surface of the circuit board is oriented away from a cranium of a patient, and the second surface is oriented toward the cranium when the implantable medical device is implanted on the cranium. Claim 6 further requires that the second plane is located closer to the surface of the cranium than the first plane when the implantable medical device is implanted on the cranium. The Examiner recognized that Meadows fails to teach or suggest placement of an implantable medical device on a cranium, as required by claims 2, 6 and 23, but characterized Howard as providing this teaching. However, as recognized by the Examiner, Howard does not teach or suggest placement of an implantable medical device on the cranium, but instead describes a device that is implanted within the brain.[5] Accordingly, contrary to the Examiner's argument, no combinations of the teachings of Meadow and Howard would meet the above-identified requirements of claims 2, 6 and 23.

Further, claim 24 requires that the housing of the implantable medical device is concave in two axes and includes a central portion and a taper portion, the circuit board is located within the central portion, and the telemetry coil is located within the taper portion. The Examiner did not address these requirements of claim 24. None of the applied references discloses or remotely suggests these requirements of claim 24.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 2, 6 and 23-24 under 35 U.S.C. 103(a). Withdrawal of these rejections is requested.

Claims 15-18 and 32-35

Independent claim 32 recites an implantable medical device comprising a housing that includes a major surface and a feedthrough that is oriented at an angle relative to the major surface. Similarly, dependent claim 15 requires an implantable medical device housing comprising a feedthrough that is oriented at an angle relative to a major surface of the housing. None of the applied references discloses or suggests these requirements of claims 15 and 32.

[5] *See, e.g.*, Howard, column 7, lines 20-30.

The Examiner recognized that, although Meadows discloses an implantable medical device housing comprising feedthroughs, Meadows fails to disclose or suggest a feedthrough oriented at an angle relative to a major surface of the housing. The Examiner argued, however, that "Ciurzynski is considered to teach this orientation of the angle relative to the major surface," and that "[i]t would have been obvious to one of ordinary skill in the art to combine the teachings of Meadow with the angle orientation of Ciurzynski for the purpose of utilizing side surfaces of a concave housing, while allowing the feedthrough to fit in a space provided within a low-profile, concave housing. This argument is fundamentally flawed for several reasons.

First, contrary to the Examiner's argument, Ciurzynski does not teach or suggest orientation of a feedthough at an angle relative to a major surface of a housing. Instead, Ciurzynski teaches that a portion of a wire that extends beyond a bonding pad may be bent at an angle relative to a surface of the bonding pad.[6] This teaching of Ciurzynski is simply irrelevant to the requirements of claims 15 and 32. In other words, the combination of this teaching of Ciurzynski with the teaching of Meadows would still fail to meet the requirements of claims 15 and 32, and this teaching of Ciurzynski would not have even remotely suggested modification of the implantable medical device described by Meadows to meet the requirements of these claims to one of ordinary skill in the art.

Further, the Examiner has identified no teaching or suggestion within the prior art that would have motivated one of ordinary skill to combine the Meadows and Ciurzynski teachings in the manner proposed by the Examiner. The Examiner is reminded that it is well established that the Examiner bears the burden of establishing a prima facie case of obviousness.[7] In doing so, the Examiner must determine whether the prior art provides a "teaching or suggestion to one of ordinary skill in the art to make the changes that would produce" the claimed invention.[8] A prima facie case of obviousness is established only when this burden is met.

The conclusion of obviousness advanced by the Examiner relies on a motivation plucked directly from Applicants' own disclosure, rather than the prior art. Indeed, the Examiner's statement that "[i]t would have been obvious to combine...for the purpose of utilizing side

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[6] Ciurzynski, column 3, lines 30-35.
[7] *In re Oetiker*, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).
[8] *In re Chu*, 36 USPQ2d 1089, 1094 (Fed. Cir. 1995).

surfaces of a concave housing, while allowing the feedthrough to fit in a space provided within a low-profile, concave housing" is taken directly from paragraph [0012] of Applicant's disclosure. The Examiner cited no prior art teaching as the source for this motivation. In fact, the applied references do not even teach or suggest a concave or low-profile housing. This is clearly improper.

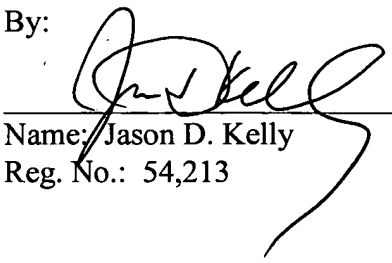
Additionally, the Examiner completely failed to address the requirements of claims 16-18 and 33-35. The requirements of these claims are not taught or suggested by Meadows. Applicant respectfully requests that the Examiner consider the requirements of each of Applicant's claims, and that the next Office Action include explanations of the rejections for each claim in accordance with the requirements of 37 C.F.R. 1.104, or withdrawal of such rejections.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 15-18 and 32-35 under 35 U.S.C. 103(a). Withdrawal of these rejections is requested.

CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date: 8/18/05

By: 

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